AMENDMENTS TO CLAIMS

Please amend the claims as follows:

1. (Currently amended) A communications node for establishing a plurality of logical links running through the node contemporaneously to one or more remote nodes, the communications node comprising:

input switch means;

output switch means;

a plurality of communications resources connected between said input and output switch means, said plurality of communications resources including at least first and second communications resources adapted to deliver different communication services including packet-switched services and circuit-switched services, said packet-switched services delivered by a plurality of packet processing pipelines, each of said packet processing pipelines processing packets according to one or more packet protocols;

control means associated with said input switch means and said output switch means ~~configured~~ to establish logical links through the node and ~~configured to test for a route~~ across a plurality of nodes, and ~~if nodes~~ configured to cause set up of ~~the plurality of nodes have required resources,~~ a logical link by issuing a request to establish ~~one or more logical links along~~ a logical link routed from a source to a destination node and to cause the setting of appropriate switching tables of nodes having the ~~route across~~ required resources but not of nodes denying the ~~plurality of nodes~~ request, each said logical link comprising one or more channels of a physical link and wherein each said logical link ~~can be~~ is selectively switchable into circuit-switched services or

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~~demultiplexed via packet buffering enabling OSI layer 3 traffic to be carried without using OSI layer 2 link layer mechanisms and~~ switched <u>services at each node</u> ~~into one of the plurality of packet processing pipelines~~.

2. (Original) A communications node as in claim 1, wherein said communications resources include signal processing means.

3. (Original) A communications node as in claim 1 or 2, wherein said communications resources include packet processing means.

4. (Previously presented) A communications node as in claim 1, wherein said communications resources include a first plurality of communications resources adapted to serve one of said service types and a second plurality of communications resources adapted to another of said service types.

5. (Previously presented) A communications node as in claim 1, wherein the at least first communications resource is arranged to process a component of a synchronous input signal, and the at least second of said communications resources is arranged to process a component of an asynchronous input signal.

6. (Currently amended) A communications node as in claim 1, wherein a plurality of packets from a signal flow is processed by said ~~second~~ communications resource.

7. (Previously presented) A communications node as in claim 1, wherein said input switch means is arranged to receive at least one input signal partitioned such that it comprises a plurality of signal components, wherein said plurality of logically distinct

links through the node are established by means of logically associated ones of the signal components.

8. (Original) A communications node as in claim 7, wherein said output switch means is configurable to receive signal components and switch said signal components onto at least one output signal which partitions said signal components, wherein said logical links through the node are extended by means of logically associated ones of the components of the output signal.

9. (Original) A communications node as in claim 7 or 8, wherein said signal components are partitioned by means of one or more of: time division multiplexing; frequency division multiplexing; code division multiplexing; and space division multiplexing.

10. (Previously presented) A communications node as in claim 7, wherein said input switch means is configurable to switch a plurality of partitioned input signals contemporaneously.

11. (Previously presented) A communications node as in claim 7, wherein said output switch means is configurable to switch a plurality of partitioned output signals contemporaneously.

12. (Previously presented) A communications node as in claim 1, wherein one or more of said logical links spans more than two nodes such that it establishes a logical network.

13. (Previously presented) A communications node as in claim 12, wherein one or more of said logical networks is initiated and/or terminated at a node.

14. (Previously presented) A communications node as in claim 12, wherein one or more of said logical networks is initiated and/or terminated at an end terminal.

15.-16. (Canceled)

17. (Previously presented) A communications node as in claim 12, wherein said input switch means and said output switch means are configurable to circuit switch communications data on a logical link such that low latency transfer of said data is achieved.

18. (Previously presented) A communications node as in claim 12, wherein pluralities of said logical links are programmably aggregated and disaggregated by said node.

19.-27. (Canceled)

28. (Previously presented) A communications node as in claim 1, wherein a plurality of synchronous input signals are received at an input means and an output signal from an output means comprises components from different ones of the input signals.

29. (Previously presented) A communications node as in claim 1 or 28, wherein the output switch means supplies a plurality of output signals to an output means, and

wherein first and second output signals of the plurality of output signals comprise components from one input signal.

30.-32. (Canceled)

33. (Previously presented) A communications node as in claim 3, wherein said output switch means is arranged to switch a packet supplied from the packet processing means in accordance with destination information associated with the packet by the packet processing means.

34. (Previously presented) A communications node as in claim 1, wherein a packet from an input signal is switched such that it appears as a packet in a plurality of output signals of an output means.

35. (Previously presented) A communications node as in claim 1, wherein a plurality of packet flows each on a different logical link of an input signal are switched such that they appear as packet flows on different output signals of an output means.

36. (Canceled)

37. (Previously presented) A communications node as in claim 1 or 2, wherein a plurality of packet flows on a logical link of an input signal are switched such that they appear as packet flows on logical links of different output signals of an output means.

38. (Previously presented) A communications node as in claim 1 or 2, wherein an input signal comprises packets belonging to a plurality of packet flows each packet flow being carried on a different logical link, wherein said first input switching means is

operable to demultiplex the input signal to provide individual packet flows and supply a combined packet flow therefrom to an appropriate packet processing pipeline for processing in accordance with a predetermined packet processing protocol.

39. (Previously presented) A communications node as in claim 1 or 2, wherein said output switch means is programmed with switching information such that it receives packets from said input switch means which have bypassed said packet processing means and directs them without reference to destination information in the packet.

40. (Previously presented) A communications node as in claims 1 or 28, wherein said at least one input signal comprises a first input signal which is timed synchronously with a timing reference signal of the node and a second input signal having a rate of receipt independent of said timing reference signal of the node.

41. (Original) A communications node as in claim 40, wherein said at least one input signal comprises a first plurality of input signals timed synchronously with a timing reference signal of the node and a second plurality of input signals having a rate of receipt independent of said timing reference signal of the node.

42. (Previously presented) A communications node as in claim 1, for receiving and transmitting signals comprising sets of signal components transmitted at intervals, wherein a set comprises a number of signal components partitioned from one another and wherein concatenated signal components in adjacent sets establish a number of logical links over a portion of a communications network, wherein the: ¶

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control means is connected to said output switch means and programmable to cause selected ones of the partitioned signal components of a set to be aggregated, such that said aggregated signal components define an aggregated logical link having a bandwidth corresponding to a predetermined multiple of the signal component bandwidth.

43. (Original) A communications node as in claim 42, further comprising control means connected to said input switch means and programmable to cause partitioned signal components which have been aggregated at a remote node to be disaggregated.

44. (Original) A communications node as in any of claims 42 or 43, further comprising a plurality of signal processing means connected between said input switch means and said output switch means, wherein said input switch means is configurable to supply at least a component of an input signal to a selected one of said signal processing means.

45. (Original) A communications node as in claim 44, wherein one or more of said node processing means is arranged to process at least a signal component received on an aggregated logical link after signals transferred thereto have been disaggregated.

46. (Original) A communications node as in claim 44, wherein one or more of said node processing means arranged to process at least a component of a signal received on an aggregated logical link without disaggregating the partitioned signal components defining the aggregated logical link.

47. (Original) A communications node as in claim 44, wherein at least one signal processing means is arranged to support one or more of Ethernet, ATM, IP, IP over ATM, IP over Ethernet or unpacketised data.

48. (Currently amended) A method of setting up a logical link across a portion of a network comprising:

providing a plurality of communications nodes for establishing a plurality of logical links running through the node contemporaneously to one or more remote nodes, the communications node comprisingincluding:

input switch means;

output switch means;

a plurality of communications resources connected between said input and output switch means, said plurality of communications resources including at least first and second communications resources adapted to deliver different communication services including packet-switched services and circuit-switched services, said packet-switched services delivered by a plurality of packet processing pipelines, each of said packet processing pipelines processing packets according to one or more packet protocols;

control means associated with said input switch means and said output switch means configured to establish logical links through the node and configured to test for a route across a plurality of nodes, and if nodes configured to cause set up of the plurality

of nodes have required resources,a logical link by issuing a request to establish one or more logical links along a logical link routed from a source to a destination node and to cause the setting of the appropriate switching tables of nodes having the route across required resources but not of nodes denying the plurality of nodesrequest, each said logical link comprising one or more channels of a physical link and wherein each said logical link can be is selectively switchable into circuit-switched services or demultiplexed via packet buffering enabling OSI layer 3 traffic to be carried without using OSI layer 2 link layer mechanisms and switched services at each node into one of the plurality of packet processing pipelines; and

routing a request to establish a logical link from a source node to a destination node over at least one of the plurality of communications nodes.

49. (Currently Amended) A method of setting up an aggregated logical link, comprising:

providing a plurality of communications nodes for establishing a plurality of logical links running through the node contemporaneously to one or more remote nodes, the communications node comprisingincluding:

input switch means;

output switch means;

a plurality of communications resources connected between said input and output switch means, said plurality of communications resources including at least first

and second communications resources adapted to deliver different communications services including packet-switches services and circuit-switched services, said packet-switched services delivered by a plurality of packet processing pipelines, each of said packet processing pipelines processing packets according to one or more packet protocols;

control means associated with said input switch means and said output switch means ~~configured~~ to establish logical links through the node and ~~configured to test for a route~~ across a plurality of nodes, and ~~if nodes~~ configured to cause set up of ~~the plurality of nodes have required resources,~~ a logical link by issuing a request to establish ~~one or more logical links along~~ a logical link routed from a source to a destination node and to cause the setting of appropriate switching tables of nodes having the ~~route across~~ required resources but not of nodes denying the ~~plurality of nodes~~ request, each said logical link comprising one or more channels of a physical link and wherein each said logical link ~~can be~~ is selectively switchable into circuit-switched services or ~~demultiplexed via~~ packet-buffering ~~enabling OSI layer 3 traffic to be carried without using OSI layer 2 link layer mechanisms and~~ switched services at each node ~~into one of the plurality of packet processing pipelines~~; and

routing a request to establish a logical link from a source node to a destination node over at least one of the plurality of communications nodes.

50. (Canceled).